Apr 10th, 9:00 AM - 10:00 AM

Effects of Temperature on the Intracapsular Embryonic Development of the Freshwater Gastropod *Physa Acuta*

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Poster Presentation P41

EFFECTS OF TEMPERATURE ON THE INTRACAPSULAR EMBRYONIC DEVELOPMENT OF THE FRESHWATER GASTROPOD *PHYSA ACUTA*

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Temperature is an important factor regulating the growth and development of organisms. I studied the effect of temperature on the development of the freshwater gastropod *Physa acuta.* Egg capsules from thirteen separate egg masses were isolated and distributed among three environmental temperatures (22?C, 25?C, and 28?C) and checked daily. Capsule and juvenile dimensions and hatching time were recorded for each egg capsule. Data analysis confirmed that increased temperature had a significant acceleratory effect on embryonic developmental rate for all egg masses. In 85% of the egg masses temperature also had a significant and positive effect on juvenile snail size, but no influence on shell shape. When all data were pooled, juvenile length and juvenile volume were not correlated with capsule size ($r > 0.03$, $p = 0.65$), but hatch day was negatively related to capsule size ($r = -0.18$, $p = 0.007$). Among egg capsule size groups, average hatch day and juvenile size were significant different ($p < 0.001$) among temperatures treatments. Data analysis of the larger group revealed the same observed effects of temperature as those described previously, when all egg masses were considered. Analysis of the smaller group, however, indicated no significant difference in days to hatching between 22?C and 25?C, though each was significantly less than that at 28?C. Additionally, a significant difference in both juvenile length and juvenile volume was found between 22?C and 28?C for this group, although neither temperature was significantly different from 25?C.